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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/592,936	09/15/2006	Koji Katano	129370	6051
25944 7590 07/08/2010 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
LEE, CYNTHIA K				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
07/08/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com

jarnstrong@oliff.com

Office Action Summary

Application No.

10/592,936

Applicant(s)

KATANO, KOJI

Examiner

CYNTHIA LEE

Art Unit

1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5 and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Amendment

This Office Action is responsive to the amendment filed on 4/2/2010. Claims 3 and 6 have been canceled. Claims 1, 2, 4, 5, 7-10 are pending. Applicant's arguments have been fully considered and are persuasive. However, upon further consideration, the instant claims are rejected under new grounds of rejections. Claims 1, 2, 4, 5, 7-10 are non-finally rejected for reasons stated herein below.

Election/Restrictions

In light of Applicant's amendment filed on 4/2/2010, the election of species has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen (US 7235217) in view of Greiner (US 5728183).

Nguyen discloses a fuel cell system comprising:

a fuel cell body D;

a first portion A and a second portion B which cooperate with each other to jointly form a passage for hydrogen exhausted from the fuel cell body.

Regarding claim 5, the hydrogen processing unit includes a combustion unit.

Regarding claim 1, Nguyen discloses a first portion and a second portion which cooperate with each other to jointly form a passage for hydrogen exhausted from the fuel cell body, but does not disclose a hydrogen exhaust valve disposed in the passage between the first portion and the second portion, wherein the first portion and the second portion are directly fixed to each other and are both continuously supplied with heat from the fuel cell body following start up of the fuel cell body. Greiner teaches a first portion 60 and a second portion 25 which cooperate with each other to jointly form a passage for hydrogen exhausted from the fuel cell body, a hydrogen exhaust valve 43 disposed in the passage between the first portion and the second portion, wherein the first portion 60 and the second portion 25 are directly fixed to each other.

Regarding claim 2, the first portion includes a gas-liquid separation unit 60 supplied with heat from inflowing exhaust gas from the fuel cell body.

Regarding claim 4, the second portion is a hydrogen processing unit 25 supplied with heat from inflowing exhaust gas from the fuel cell body.

Regarding claim 7, the first portion includes a cover 41 formed with an internal space that accommodates the hydrogen exhaust valve; and the second portion 21 closes the internal space of the cover within which the hydrogen exhaust valve is disposed. See fig. 1.

Regarding claim 9, the hydrogen exhaust valve 43 is fixed to the first portion 60 and the second portion 25. See fig. 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Nguyen's combustor, fuel reformer, and shift reactor

for Greiner's compact shift reactor system for the benefit of compacting Nguyen's system.

It is noted that both portions naturally are supplied with heat continuously from the fuel cell body following start up of the fuel cell body because the temperature of the fuel cell is elevated during operation and thus, the hydrogen exhaust possesses heat.

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen (US 7235217) in view of Greiner (US 5728183) as applied to claim 1, further in view of Kiku (US 6908069).

Regarding claim 8, Nguyen modified by Greiner does not teach a spring member is interposed between the hydrogen exhaust valve and one of the first portion and the second portion to urge the hydrogen exhaust valve against the other one of the first portion and the second portion. Regarding claim 10, Nguyen modified by Greiner does not teach seal mechanisms are respectively interposed between the hydrogen exhaust valve and each of the first portion and the second portion. Kiku teaches the following: Regarding claim 8, Kiku teaches a spring member 69 is interposed between the hydrogen exhaust valve and one of the first portion and the second portion to urge the hydrogen exhaust valve against the other one of the first portion and the second portion. Regarding claim 10, Kiku teaches seal mechanisms 92p and 17 are respectively interposed between the hydrogen exhaust valve and each of the first portion and the second portion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the valve of Kiku as the hydrogen exhaust valve of Nguyen modified by Greiner for the benefit of moving the hydrogen exhaust.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Lee/
Examiner, Art Unit 1795